Photographic Science and Engineering

Volume 18, Numbers 1–6

January/February (1)	1–120
March/April (2)	121–232
May/June (3)	233–360
July/August (4)	361–472
September/October (5)	473–600
November/December (6)	601–680

TITLE INDEX

Abstracts from the Second International Conference on Electrophotography. 589, 678

A Comparison of Some Electrophotographic Processes Based on Photoconductor-Insulator Layer Combinations
Peter Mark. 254

A Look at Leslie Brooker—His Life and Works
J. Spence. 610

A Study of the X-Ray Spectral Sensitivity of Two Commercially Available Films under Vacuum and Ambient Conditions
R. A. Armistead. 637

A Theory of the Variation of Sensitivity with Temperature in Nuclear Emulsions
Mahendra Singh Dhanager and A. P. Sharma. 652

An Analysis of Speckles in Reversal Liquid Development of ZnO-Binder Layers
P. Guenzburger. 399

Analysis of the Effects of Environment of the Photolytic Darkening of Silver Halide Microcrystals
D. J. Locker. 242

Autocatalysis in Ascorbic Acid Development
M. R. V. Sahyun. 504

Chemisorbed Sensitizing Dye Aggregates with Herringbone Structures
Charles Reich. 335

Comparison of the Photographic and Luminescent Properties of Spectral Sensitizing Dyes Adsorbed to AgBrI Emulsions
L. Costa, F. Grum, and P. B. Gilman, Jr. 261

Contemporary Problem of the Theory of Photographic Sensitivity
J. Malinowski. 363

Correlations between the Acid Base Equilibria and the Electrochemical Properties of Some Carbocyanine Dyes
P. Beretta and A. Jaboli. 197

Crossover Studies I: Calculated Cyanine Dye Energy Levels and Sensitization of Fine-Grained Silver Halides
D. M. Sturmer, W. S. Gaugh, and B. J. Bruschi. 49

II: Effects of Emulsion Sensitization on Chemical and Spectral Sensitization by Dyes
D. M. Sturmer, W. S. Gaugh, and B. J. Bruschi. 56

Crystallization Mechanisms During Precipitation of Silver Halide Photographic Emulsions
Edgar B. Gutoff, Richard Cottrell, Geoffrey Margolis, Edward G. Denk, and Charles H. Wallace. 8

Diffuser Noise in Reconstructed Images
William H. Carter. 403

Document Screens for Extended Range Electrophotography
R. N. Goren and L. M. Marks. 605

Dye-Dye Interactions of Cyanines in Solution and at AgBr Surfaces
A. H. Herz. 323

Dye-Sensitized Photolysis of Diazonium Compounds. III. Rapid Photopolymerization of Acrylamide
T. Yamase, T. Sumi, T. Ikawa, H. Kokado, and E. Inoue. 25

Dye-Sensitized Photolysis of Diazonium Compounds: Part IV. Detection of Short-Lived Free Radicals by Electron Spin Resonance Spin Trapping Techniques
Toshihiro Yamase, Tsuneo Ikawa, Hiroshi Kokado, and Eiichi Inoue. 647

Effects of Dye Adsorption upon Ionic Conduction of Silver Bromide Emulsions and Discussion on Dye Adsorption.
Tadaaki Tani and Shunji Takada. 620

Effect of Surface Defects in the Ionization Energies of Adsorbed Dye Molecules
P. Yanoulis and R. C. Nelson. 94

Electrochemical Model for Spectral Sensitization of Silver Halides by Dyes
Ingo H. Leubner. 175

Electronic Structures of Developing Agents II. Determination of Ionization Potentials of Phenylenediamines in Emulsions and Discussion of Electronic Processes in Development
Tadaaki Tani. 235

Energy Level Measurement Related to Photosensitization
Paul Nielsen. 186

Energy Transfer in Spectral Sensitization of AgBr
Dietmar Möbius and Hans Kuhn. 629

Excited-State Properties of Some Carbocyanine Dyes and the Energy Transfer Mechanism of Spectral Sensitization
D. F. O'Brien, T. M. Kelly, and L. F. Costa. 76

Fast Method of Determining the MTF of Photographic Materials
H. T. Buschmann. 29

Film Fogging by Radiation from Building Materials
Arne Lundh. 517

Flash Photolysis of a J-Aggregated Cyanine Dye
J. H. W. Cramp, C. F. V. Jessup, and F. W. Willets. 90

Flash Photolysis of Dyes Adsorbed to Emulsion Grains: Effect of Iodide and Grain Habit
J. H. W. Cramp, C. F. V. Jessup, and F. W. Willets. 90
Fractional Core Charges Model Applied to the Theoretical Study of Cyanine Dyes
Ives Ferré, Henry Larivé, and Emile-Jean Vincent. 457
Geometric Constraints Affecting the Aggregation of Thiocarbocyanine Dyes on Silver Bromide Surfaces
Donald Mastropaolo, Joseph Potenza, and George R. Bird. 450
Image Contrast Techniques and Add-on Recording for Lead Iodide Photosystems
M. R. Tubbs. 156
Importance of Molecular Fields in Electron Transfer Models for Spectral Sensitization
J. W. Trusty and J. M. Ferrier. 92
Improvements in the Silver Dye-Bleach Process
Armin Meyer. 530
Induction Time in Photographic Development
A. Hoffman, J. Charkoudian, and A. Ames. 12
Influence of Nigrosin on the High Field Injection Characteristics of Charge from Selenium into Insulating Liquids
Paul J. Cressman. 284
Influence of the Habit of Silver Halide Crystals on Absorption Spectra of Adsorbed Sensitizing Dyes. III. Chlorobromide Emulsions.
W. Vanassche. 288
In Memoriam
C. B. Neblette. 602
Henry M. Lester. 602
Prof. Dr. John Eggert. 3
Raymond Davis. 601
In Memory of Hermann Wilhelm Vogel
Siegfried Dähne. 582
Interactions Between Dyes and Silver Halide: The Electron Donor Properties of Adsorbed Dyes Related to Sensitization or Desensitization in the Blue Region
S. Boyer and L. Pichon. 555
Ionic Conduction and Space Charge Layer in Silver Halide Photographic Emulsion Grains
Shunji Takada. 500
J-Aggregation in Monomolecular Layers of Cyanine Dyes
D. F. O'Brien. 16

Letters to the Editor
Boris Levy. 347
Hollis N. Todd. 110
Magnetic Field Dependence of Dye Sensitized Delayed Fluorescence in Organic Crystals.
R. B. Groff. 64
Mathematical Modeling of Latent-Image Formation
J. F. Hamilton. 371
Measurements of Photoelectron Lifetimes in Silver Halide Microcrystals Using Microwave Techniques
L. M. Kellogg. 378
Mechanisms of Development Restraint—Chemistry of 6-Nitrobenzimidazole and Benzotriazole
M. R. V. Sahyun. 383
Modification of Spectral Sensitization by Alterations in Environment
T. H. James. 100
Modified Electron Transfer Mechanism for Spectral Sensitization VIII. Comparison between Densitizing and Infrared Range Sensitizing Dyes
Tadaaki Tani. 165
Modulation Transfer Function in Photographic Systems Containing Development Adjacency Effects
M. A. Kriss, C. N. Nelson, and F. C. Eisen. 131
MTF of Screen-film Systems: The Influence of Screen and Crossover
G. K. Sanderson and H. M. Cleare. 251
Nanosecond Fluorescence Spectrometry, in Photographic Systems
T. M. Kelly and D. F. O'Brien. 68
Observations of a Superlinear Dependence of the Spectrally Sensitized Photoconductivity and Photographic Responses on Light Intensity in Some Dyed AgBr Emulsions when T < 125 K
L. M. Kellogg, R. K. Hailstone, and N. B. Liebert. 549
On the Combination for the Transfer Function of the Microdensitometer in Measurements of Photographic Emulsions
Stephan Johansson and Klaus Biedermann. 151
On the Competitive Adsorption of Polyethyleneoxides and Gelatin in Silver Iodide Grains
Yutaka Inaba. 138
On the Specific Properties of Spectral Sensitizer in the Ground and First Excited Singlet State
S. Dähne, S. Kulpe, K.-D. Knolte, and R. Radeglia. 410
On the Structure of the J-Aggregate of an Effienct Pseudocyanine
E. Daltrozzo, G. Scheibe, K. Gschwind, and F. Haiment. 441
Optimization of Information Display in Image Recorders
Nicholas Gramenopoulos. 658
Overcoming the Limitation of Incomplete Absorption in Sensitization with Cyanine Dyes
George R. Bird. 562

Papers from the Vogel Centennial—Introduction. 33
Phenomenological Theory of the *D* Log *E* curve for migration imaging
Arnold L. Pundsack. 642
Photographic Effects of Electron and Positive Hole Traps in Silver Halides IX. Factors Influencing Densitization Caused by Sensitizing and Desensitizing Dyes
Tadaaki Tani. 576
Photographic Sensitivity of Particle Migration Microfilm
S. Tutihasi. 394
Photographic Effects of Electron and Positive Hole Traps in Silver Halides VII. Interaction between Reduction Sensitization or Desensitization in the Blue Region.
Tadaaki Tani. 569
Part VIII. Dependence of Desensitization by Dyes upon Crystal Habit and Size of Silver Bromide Grains
Tadaaki Tani. 215
Photopolymerization of Epoxides
S. I. Schlesinger. 387
Phenomenological Study of a Chalcogenide/ZnO Photoconductor System
Leon J. Schwartz. 159
Physical Development of Latent Images on Large Crystals of Lead Halides
J. F. Reber, J. G. Fernández García, R. Steiger, and Ch. G. Boisonnas. 630
Physical Properties of Silver Halide Microcrystals
J. F. Hamilton. 493
Power Requirements, Exposure Time, and Optimum Resolution in Thermal Imaging Systems
P. K. C. Pillai and R. C. Ahuja. 544
Protonation Equilibria of Cyanine in Solution and at AgBr Surfaces
A. H. Herz. 207
Rate Process in AgBr Crystal Growth
Chester R. Berry. 4
Review of the Mechanisms of Supersensitization
P. B. Gilman, Jr. 418
Semiconductivity of Dyes: Relationships to Spectral Sensitization and Possible Technical Applications
H. Meier, W. Albretch, and U. Tschirwitz. 276
Simultaneous Observations of Adsorption Isotherms and Absorption Spectra of Sensitizing Dyes on Single Crystals
William D. Pandolfe and George R. Bird. 340
Some Aspects of the Structure Reactivity Relationship in Aromatic Diazo Compounds
Evan S. Baltazzi, C. N. Nelson, and F. C. Eisen. 123
Spectral Sensitization by Desensitizers
Oscar Riester. 295
Spectral Sensitization of AgBr by Prefabricated Transferred Multilayer Systems
Dietmar Möbius. 413
Spectroscopic and Photographic Properties of 9-methylthiacarbocyanine Dyes
Joseph M. Simson. 302
Specular Orbital Density of Diffusing Media
S. K. Salib, J. J. de Palma, and J. Gasper. 145
Spectral Sensitization of Dichromatic Gelatin
Motoo Akagi. 248
Structure of Dyes and Dye Aggregates—Evidence from Crystal Structure Analyses
Douglas L. Smith. 309

Studies in Hydroquinone Development
Part I. Kinetic Experiments by Infrared Scanning during Development
T. L. Beaupré, R. R. Jasper, D. A. Turbide, and M. T. Williams. 535
Part II. Microimage Characteristics in Litho Development
J. E. Lopez. 539
Studies of the Delayed Luminescence of Silver Halides. I. Luminescence-time Measurements of Silver Iodobromide Emulsions
B. P. Michins and W. Cooper. 512
Study of the Mechanism of Self-Supersensitization of an Efficient J-Aggregate
S. S. Collier. 430
The Conceptual Basis for Electron Transfer Mechanisms
R. C. Nelson. 485
The First Hundred Years of Spectral Sensitization
W. West. 35
The Minimum Size of Silver and Gold Nuclei for Silver Physical Development
J. F. Hamilton and P. C. Logel. 507
The Question of Energy Transfer in Spectral Sensitization of Silver Bromide: A Reinterpretation
K. H. Drexhage. 627
The Vogel Centennial: Dye Sensitization—Past, Present, and Future. Closing Summary of Conference.
Burt H. Carroll. 454
Transient Absorption of Cyanine Dyes in Films of Gelatin and Silver Halide Emulsions
S. H. Ehlrich. 179
Use of Hydrazine to Increase the Speed and Contrast of Industrial Radiographic Film
E. M. Sandoval and J. P. Kearns. 21
Use of Special Sensitizing Dyes to Estimate Effective Energy Levels of Silver Halide Substrates
P. B. Gilman, Jr. 475
Variation of Surface Potential with Temperature and Orientation for Silver Halide Crystals
J. M. Blakely and S. Danyluk. 489
Wavelength and Angular Dependence of the Dember Effect—An Explanation for "Anomolous" Sign Reversals
C. R. Dickson and B. R. Levy. 524

AUTHOR INDEX

Ahuja, R. C. *See* Pillai, P. K. C.
Akagi, Motoo
Spectral Sensitization of Dichromatic Gelatin. 248
Albretch, W. *See* Meier, H. et al.
Armistead, R. A.
A Study of the X-Ray Spectral Sensitivity of Two Commercially Available Films Under Vacuum and Ambient Conditions. 637
Baltazzi, E. S., Dailey, E. D., Datta, P., Printy, H., and Wagner, W. J.
Some Aspects of the Structure Reactivity Relationship in Aromatic Diazo Compounds. 123
Beaupré, T. L., Jasper, R. R., Turbide, D. A., and Williams, M. T.
Studies in Hydroquinone Development. Part I. Kinetic Experiments by Infrared Scanning during Development. 535
Beretta, P., and Jaboli, A.
Correlations between the Acid Base Equilibria and the Electrochemical Properties of Some Carbocyanine Dyes. 197
Berry, Chester R.
Rate Process in AgBr Crystal Growth. 4
Biedermann, K. *See* Johansson, S.
Bird, George, R.
Overcoming the Limitation of Incomplete Absorption in Sensitization with Cyanine Dyes. 562
See Mastropaolo, et al.
See Pandolfe, William
Blakely, J. M., and Danyluk, S.
Variation of Surface Potential with Temperature and Orientation for Silver Halide Crystals. 489
Boissonnas, Ch. G. *See* Reber, J. F. et al.
Boyer, S., and Pichon, L.
The Interactions between Dyes and Silver Halide: The Electron Donor Properties of Adsorbed Dyes Related to Sensitization or Desensitization in the Blue Region. 555
Bruschi, B. J. *See* Sturmer, D. M.
Buschmann, H. T.
Fast Method of Determining the MTF of Photographic Materials. 29
Carroll, Burt H.
The Vogel Centennial: Dye Sensitization—Past, Present, and Future. Closing Summary of Conference. 454
Carter, William H.
Diffuser Noise in Reconstructed Images. 403
Cher, Mark
Power Requirements, Exposure Time, and Optimum Resolution in Thermal Imaging Systems. 541
Cleare, H. M. *See* Sanderson, G. K.
Collier, S. S.
Study of the Mechanism of Self-Supersensitization of an Efficient J-Aggregate. 430
Cooper, W. *See* Michrina, B. P.
Costa, L., Grum, F., and Gilman, Jr., P. B.
A Comparison of the Photographic and Luminescent Properties of Spectral Sensitizing Dyes Adsorbed to AgBrI Emulsions. 261
See O'Brien, T. M.
Cottrell, Richard. *See* Gutoff, E. B. et al.
Cramp, J. H. W., Jessup, C. F. V., and Willets, F. W.
Flash Photolysis of a J-Aggregated Cyanine Dye. 90
—Terry, G. C., and Willets, F. W.
Flash Photolysis of Dyes Adsorbed to Emulsion Grains: Effect of Iodide and Grain Habit. 85
Cressman, Paul J.
Influence of Nigrosin on the High Field Injection Characteristics of Charge from Selenium into Insulating Liquids. 284
Dähne, Siegfried
In Memory of Hermann Wilhelm Vogel. 582
—Kulpe, S., Knolte, K.-D., and Radeglia, R.
On the Specific Properties of Spectral Sensitizer in the Ground and First Excited Singlet State. 410
Dailey, E. D. *See* Baltazzi, E. S. et al.
Daltrozzo, E., Scheibe, G., Gschwind, K., and Haiment, F.
On the Structure of the J-Aggregate of Pseudocyanine. 441
Danyluk, S. *See* Blakely, J. M.
Datta, P. *See* Baltazzi, E. S. et al.
Denk, E. G. *See* Gutoff, E. B. et al.
de Palma, J. J. *See* Salib, S. K. et al.
Dickson, C. R., and Levy, B. R.
Wavelength and Angular Dependence of the Dember Effect—An Explanation for "Anomolous" Sign Reversals. 524
Drexhage, K. H.
The Question of energy Transfer in Spectral Sensitization of Silver Bromide: A Reinterpretation. 627
Ehlrich, S. H.
Transient Absorption of Cyanine Dyes in Films of Gelatin and Silver Halide Emulsions. 179

Eisen, F. C. *See* Kriss, M. A. et al.
Fernández-García, J. G. *See* Reber, J. F., et al.
Ferré, Ives, Larivé, Henry, and Vincent, Emile-Jean
Fractional Core Charges Model Applied to the Theoretical Study of Cyanine Dyes. 457
Ferrier, J. M. *See* Trusty, J. W.
Gasper, J. *See* Salib et al.
Gaugh, W. S. *See* Sturmer, et al.
Gilman, Jr., P. B.
Review of the Mechanisms of Supersensitization. 418
See Costa, L. et al.
Use of Spectral Sensitizing Dyes to Estimate Effective Energy Levels of Silver Halide Substrates. 475
Goren, R. N., and Marks, L. M.
Document Screens for Extended Range Electrophotography. 605
Gramenopoulos, Nicholas
Optimization of Information Displays in Image Recorders. 658
Grum, F. *See* Costa, L. et al.
Gschwind, K. *See* Daltrozzo, E. et al.
Guenzburger, P.
An Analysis of Speckles in Reversal Liquid Development of ZnO-Binder Layers. 399
Gutoff, Edgar B., Cottrell, R., Margolis, G., Denk, E. G., and Wallace, C. H.
Crystallization Mechanism During Precipitation of Silver Halide Photographic Emulsions. 8
Hailstone, R. K. *See* Kellogg, L. M. et al.
Haiment, F. *See* Daltrozzo, E. et al.
Hamilton, J. F.
Mathematical Modeling of Latent-Image Formation. 371
Physical Properties of Silver Halide Microcrystals. 493
—and Logel, P. C.
The Minimum Size of Silver and Gold Nuclei for Silver Physical Development. 507
Herz, A. H.
Dye-Dye Interactions of Cyanines in Solution and at AgBr Surfaces. 323
Protonation Equilibria of Cyanine in Solution and at AgBr Surfaces. 207
Hoffman, A., Charkoudian, A., and Ames, A.
Induction Time in Photographic Development. 12
Ikawa, T. *See* Yamase, T. et al.
Inaba, Yutaka
On the Competitive Adsorption of Polyethylene-Oxides and Gelatin in Silver Iodide Grains. 138
Inoue, Eiichi. *See* Yamase, T. et al.
Jaboli, A. *See* Beretta, P.
James, T. H.
Modification of Spectral Sensitization by Alteration in Environment. 100
Jasper, R. R. *See* Beaupré, T. L. et al.
Jessup, C. F. V. *See* Cramp, J. H. W. et al.
Johansson, S., and Biedermann, K.
On the Compensation for the Transfer Function of the Microdensitometer in Measurements of Photographic Emulsions. 151
Kearns, J. P. *See* Sandoval, E. M.
Kellogg, L. M.
Measurements of Photoelectron Lifetimes in Silver Halide Microcrystals Using Microwave Techniques. 378
—**Hailstone, R. K., and Liebert, N. B.**
Observations of a Superlinear Dependence of the Spectrally Sensitized Photoconductivity and Photographic Responses on Light Intensity in Some Dyed AgBr Amulsions when T <125°K. 549
Kelly, T. M., and O'Brien, D. F.
Nanosecond Fluorescence Spectrometry in Photographic Systems. 68
See O'Brien, D. F.
Knolte, K.-D. *See* Dähne, S. et al.
Kokado, Hiroshi. *See* Yamase, T. et al.
Kriss, M. A., Nelson, C. N., and Eisen, F. C.
Modulation Transfer Function in Photographic Systems Containing Development Adjacency Effects. 131
Kuhn, Hans. *See* Möbius, Dietmar
Kulpe, S. *See* Dähne, S. et al.
Larivé, Henry. *See* Ferré et al.
Leubner, Ingo H.
Electrochemical Model for Spectral Sensitization of Silver Halides by Dyes. 175
Levy, Boris
Letter to the Editor. 347
See Dickson, C. R.
Liebert, N. B. *See* Kellogg, L. M. et al.
Locker, D. J.
Analysis of the Effects of Environment of the Photolytic Darkening of Silver Halide Microcrystals. 242
Logel, P. C. *See* Hamilton, J. F.
Lopez, J. E.
Studies in Hydroquinone Development—Part II. Microimage Characteristics in Litho Development. 539
Lundh, Arne
Film Fogging by Radiation from Building Materials. 517
Malinowski, J.
Contemporary Problem of the Theory of Photographic Sensitivity. 363
Margolis, G. *See* Gutoof, D. B. et al.
Mark, Peter
A comparison of Some Electrophotographic Processes Based on Photoconductor-Insulator Layer Combinations. 254
Marks, L. M. *See* Goren, R. N.
Mastropaolo, Donald, Potenza, Joseph, and Bird, George R.
Geometric Constraints Affecting the Aggregation of Thiocarbocyanine Dyes on Silver Bromide Surfaces. 450
Meier, H., Albretch, W., and Tschirwitz, U.
Semiconductivity of Dyes: Relationships to Spectral Sensitization and Possible Technical Applications. 276
Meyer, Armin
Improvements in the Silver Dye-Bleach Process. 530
Michrina, B. P., and Cooper, W.
Studies of the Delayed Luminescence of Silver Halides: I. Luminescence-time Measurements of Silver Iodobromide Emulsions. 512
Möbius, Dietmar
Spectral Sensitization of AgBr by Prefabricated Transferred Multilayer Systems. 413
—**and Kuhn, Hans**
Energy Transfer in Spectral Sensitization of AgBr. 629
Nelson, C. N. *See* Kriss et al.
Nelson, R. C.
The Conceptual Basis for Electron Transfer Mechanisms. 485
See Yanoulis, P.
Nielsen, Paul
Energy Level Measurements Related to Photosensitization. 186
O'Brien, D. F.
J-Aggregation in Monomolecular Layers of Cyanine Dyes. 16
—Kelly, T. M., and Costa, L. F.
Excited-State Properties of Some Carbocyanines Dyes and the Energy Transfer Mechanism of Spectral Sensitization. 76
See Kelly, T. M.
Pandolfe, William, and Bird, George F.
Simultaneous Observations of Adsorption Isotherms and Absorption Spectra of Sensitizing Dyes on Single Crystals. 340
Pichon, L. *See* Boyer, S.
Pillai, P. K. C., and Ahuja, R. C.
Investigation of Photoelectret State in (HgI:CdS) Systems. 544
Potenza, Joseph. *See* Mastropaolo, D. et al.
Printy, H. *See* Baltazzi, S. et al.
Pundsack, Arnold L.
Phenomenological Theory of the D Log E Curve for Migration Imaging. 642
Radeglia, R. *See* Dähne, S. et al.
Reber, J. F., Fernández-García, J. G., Steiger, R., and Boisonnas, Ch. G.
Physical Development of Latent Images on Large Crystals of Lead Halides. 630
Reich, Charles
Chemisorbed Sensitizing Dye Aggregates with Herringbone Structure. 335
Riester, Oscar
Spectral Sensitization by Desensitizers. 295
Sahyun, M. R. V.
Autocatalysis in Ascorbic Acid Development. 504
Mechanisms of Development Restraint—Chemistry of 6-Nitrobenzimidazole and Benzotriazole. 383

Salib, S. K., de Palma, J. J., and Gasper, J.
Specular Orbital Density of Diffusing Media. 145
Sanderson, G. K., and Cleare, H. M.
MTF of Screen-film Systems: The Influence of Screens and Crossover. 251
Sandoval, E. M., and Kearns, J. P.
Use of Hydrazine to Increase the Speed and Contrast of Industrial Radiographic Films. 21
Scheibe, G. *See* Daltrozzo, E. et al.
Schlesinger, S. I.
Photopolymerization of Epoxides. 387
Schwartz, Leon J.
Phenomenological Study of a Chalcogenide/ZnO Photoconductor System. 159
Sharma, A. *See* Singh, Mahendra.
Simson, Joseph, M.
Spectroscopic and Photographic Properties of 9-methylthiacarbocyanine Dyes. 302
Singh, Mahendra, and Sharma, A. P.
A Theory of the Variation of Sensitivity with Temperature in Nuclear Emulsions. 652
Smith, Douglas L.
Structure of Dyes and Dye Aggregates—Evidence from Crystal Structure Analyses. 309
Spence, J.
A Look at Leslie Brooker, 610
Steiger, R. *See* Reber, J. F. et al.
Sturmer, D. M., Gaugh, W. S., and Bruschi, B. J.
Crossover Studies I: Calculated Cyanine Dyes Energy Levels and Sensitization of Fine-Grained Silver Halides. 49
Crossover Studies II. Effects of Emulsion Sensitization on Chemical and Spectral Sensitization by Dyes. 56
Sumi, T. *See* Yamase et al.
Tani, Tadaaki, and Takada, Shunji
Effects of Dye Adsorption upon Ionic Conduction of Silver Bromide Emulsion Grains and Discussion on Dye Adsorption. 620
Electronic Structures of Developing Agents II. Determination of Ionization Potentials of Phenylenediamines in Emulsions and Discussion of Electronic Processes in Development. 235
Modified Electron Transfer Mechanism for Spectral Sensitization VIII. Comparison between Desensitizing and Infrared-Range Sensitizing Dyes. 165
Photographic Effects of Electron and Positive Hole Traps in Silver Halides VII. Interaction between Reduction Sensitization and Desensitization by Dyes on Various Silver Bromide Grains. 569
Photographic Effects of Electron and Positive Hole Traps in Silver Halides VIII. Dependence of Desensitization by Dyes. 215
Photographic Effects of Electron and Positive Hole Traps in Silver Halides IX. Factors Influencing Desensitization Caused by Sensitizing and Desensitizing Dyes. 576
Takada, Shunji
Ionic Conduction and Space Charge Layer in Silver Halide Photographic Emulsion Grains. 500
See Tani, Tadaaki
Terry, G. C. *See* Cramp, J. H. W.
Todd, Hollis, N.
Letter to the Editor. 110
Trusty, J. W., and Ferrier, J. M.
Importance of Molecular Fields in Electron Transfer Models for Spectral Sensitization. 92
Tschirwitz, U. *See* Meier, H. et al.
Tubbs, M. R.
Image Contrast Techniques and Add-on Recording for Lead Iodide Photosystems. 156
Turbide, D. A. *See* Beaupré, T. L. et al.
Tutihasi, S.
Photographic Sensitivity of Particle Migration Microfilm. 394
Vanassche, W.
Influence of the Habit of Silver Halide Crystals on Absorption of Adsorbed Sensitizing Dyes. III. Chlorobromide Emulsions. 288
Vincent, Emile-Jean. *See* Ferré, I. et al.
Wallace, C. E. See Gutoff, D. B. et al.
Wagner, W. J. *See* Baltazzi, S. et al.
West, W.
The First Hundred Years of Spectral Sensitization. 35
Willets, F. W. *See* Cramp, J. H. W.
Williams, M. T. *See* Beaupré, T. L. et al.
Yamase, T., Sumi, T., Ikawa, T., Kokado, H., and Inoue, E.
Dye Sensitized Photolysis of Diazonium Compounds. III. Rapid Photopolymerization of Acrylamide. 25
Dye-Sensitized Photolysis of Diazonium Compounds: Part IV. Detection of Short-Lived Free Radicals by Electron Spin Resonance Spin Trapping Techniques. 647
Yanoulis, P., and Nelson, R. C.
Effects of Surface Defects in the Ionization Energies of Adsorbed Dye Molecules. 94

DESCRIPTORS INDEX

Adjacency effects: 131
Adsorption: 207, 288, 302, 335, 340, 555, 620
Aggregation: 16, 288, 309, 430, 441, 450
Ascorbic acid: 504

Bromiodide emulsions: 261

Cadmium compounds: 544
Characteristic curve: 394
Charge carriers: 485
Charge transfer: 187
Chlorobromide emulsions: 288
Coherent light: 403
Conductivity: 276, 500, 620
Construction materials: 517
Contrast: 21
Crosslinking: 387
Crystal growth: 4, 8
Crystals: 500
Cyanines: 16, 49, 56, 85, 90, 179, 197, 207, 288, 309, 323, 335, 441, 450, 457, 562

Defects: 493
Dember effect: 524
Density: 145
Desensitization: 295
Desensitizing: 165, 215, 475, 569, 576
Development: 504
Development effects: 12, 21, 131, 235, 399
Development inhibitors: 383
Development process: 12
Diazo compounds: 647
Diazo materials: 25, 123, 387
Diazo processes: 123
Dichromated colloids: 248
Dye-bleach process: 530
Dye sensitization: 25, 35, 413, 430, 555, 627, 647
Dyes: 16, 35, 64, 276, 309, 323, 340, 555
history: 35

Electric field effects: 284
Electron transfer process: 165
Electron transfer processes: 92, 235

Electron traps: 215, 371, 493, 512, 569, 576
Electrophotographic recording: 254
Electrophotographic systems: 254
Electrophotography: 159, 642
Electrostatic charging: 399
Energy band structure: 49, 186
Energy levels: 261
Energy transfer: 186, 627
Equipment: 68

Fluorescence: 64, 68, 76, 261
Fogging: 517

Gold: 507
Grain habit: 85
Grain size: 8
Granularity: 29

Hole traps: 215, 371, 418, 493, 512, 569, 576
Holography: 248, 403
Hydrazines: 21

Image enhancement: 658
Image display: 658
Image quality: 658
Infectious development: 535
Insulating layers: 284
Intensifying screens: 251
Internal latent image: 383
Iodides: 156
Ionization effects: 652
Ionization energy: 94, 186, 235, 500

Latent image: 371
Latent-image carriers: 507
Latent-image formation: 100
Lead compounds: 156, 630
Lith development: 535
Luminescence: 261, 302, 430, 512

Mathematical analysis: 131, 371
Mercury compounds: 544
Migration imaging: 642
Modulation transfer function: 29, 131, 151, 251
Moisture: 100
Molecular orbital calculations: 49, 56, 94
Microscopy: 403

Noise: 29, 403
Nuclear emulsions: 652
Nucleation: 4

Oxidation: 100

pAg: 100, 475
Phenylenediamines: 235
Phosphorescence: 261, 512
Photoconductive layers: 159
Photoelectrets: 544
Photoelectron lifetimes: 378
Photolysis: 25, 85, 90, 242, 647
Photopolymerization: 387
Physical development: 507, 630
Polymethine dyes: 410
Precipitation: 4, 8

Quantum efficiency: 94

Radiography: 21
Rates: 504
Reciprocity failure: 549, 630
Redox potential: 175, 197
Reduction sensitizing: 569
Resolution: 541
Reversal effects: 399
Reviews: 35, 100, 156, 418, 493

Selenium: 284, 394, 642
Sensitivity specks: 242
Sensitization: 276, 295, 302
Sensitizers: 261
Sensitizing: 165, 215, 371, 418, 562, 569
Silver bromide: 489, 500
Silver chloride: 489, 500
Silver halide grains: 493
Silver halides: 378, 475
Spectral sensitivity: 637
Spectral sensitization: 35, 49, 56
Spectral sensitizers: 35, 549
Spectral sensitizing: 76, 100, 175, 248, 475, 485
Specular density: 145
Speed: 21, 123
Stability: 123
Sulfites: 535
Supersensitizers: 418
Supersensitizing: 295, 418, 430
Surface latent image: 383
Surface potential: 489
Surface quality: 493
Surface structure: 94

Temperature effects: 100, 549, 652
Theoretical treatment: 652
Thermography: 541
Transfer processes: 76, 151
Transient absorption: 179

X-ray: 637

Zinc oxide: 399